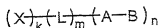


WHAT IS CLAIMED IS:

1. A photothermographic material containing a non-photosensitive silver salt of an organic acid, a photosensitive silver halide, a reducing agent for silver ions and a binder on one surface of a support, which comprises at least one compound represented by the following formula (I) and at least one compound selected from the following (i), (ii), (iii) and (iv):

Formula (I)



wherein, in the above formula, X represents a silver halide adsorption group or light absorption group which contains at least one atom of N, S, P, Se or Te, L represents a (k+n)-valent bridging group containing at least one atom of C, N, S or O, A represents an electron-donating group, B represents a leaving group or a hydrogen atom, A-B is dissociated or deprotonated after oxidation to generate a radical A', k represents 0-3, m represents 0 or 1, and n represents 1 or 2, provided that when k = 0 and n = 1, m = 0.

- (i) compounds producing imagewise a chemical species that can form development initiation points on and in the vicinity of the non-photosensitive silver salt of an organic acid,
- (ii) compounds that provide increase of developed silver grain density to a level of 200-5000% when added in an amount of 0.01 mol/mol of silver,
- (iii) compounds that provide increase of covering power to a level of 120-1000% when added in an amount of 0.01 mol/mol of silver, and
- (iv) compounds represented by any one of the following formula (1) to (3):

Formula (1)

Formula (2)

Formula (3)



wherein:

in the formula (1), R^1 , R^2 and R^3 each independently represents a hydrogen atom or a substituent, Z represents an electron withdrawing group, and R^1 and Z, R^2 and R^3 , R^1 and R^2 , or R^3 and Z may be combined with each other to form a ring structure,

in the formula (2), R^4 represents a substituent, and

in the formula (3), X and Y each independently represent a hydrogen atom or a substituent, A and B each independently represents an alkoxy group, an alkylthio group, an alkylamino group, an aryloxy group, an arylthio group, an anilino group, a heterocycloxy group, a heterocyclythio group or a heterocyclylamino group, and X and Y or A and B may be combined with each other to form a ring structure.

2. A photothermographic material according to Claim 1, which comprises at least one compound of (i).

3. A photothermographic material according to Claim 1, which comprises at least one compound of (ii).

4. A photothermographic material according to Claim 3, wherein said compound of (ii) provides increase of developed silver grain density to a level of 500-3000% when it is added in an amount of 0.01 mol/mol of silver

5. A photothermographic material according to Claim 1, which comprises at least one compound of (iii).

6. A photothermographic material according to Claim 1, wherein said compound of (iii) provides increase of covering

power to a level of 150-500% when it is added in an amount of 0.01 mol/mol of silver.

7. A photothermographic material according to Claim 1,
5 which comprises at least one compound of (iv).

8. A photothermographic material according to Claim 1,
which comprises the compound represented by the formula (I) in
an image-forming layer containing the photosensitive silver
10 halide.

9. A photothermographic material according to Claim 1,
which comprises the compound represented by the formula (I) in
an amount of 1×10^{-9} to 5×10^{-2} mol per mole of silver halide.
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10. A photothermographic material according to Claim 1,
which comprises the compound represented by the formula (I) in
an amount of 1×10^{-8} to 2×10^{-3} mol per mole of silver halide.

11. A photothermographic material according to Claim 1,
which comprises the compounds of (i), (ii), (iii) and (iv) in
an image forming layer comprising said photosensitive silver
halide or a layer adjacent thereto.
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12. A photothermographic material according to Claim 1,
which comprises the compounds of (i), (ii), (iii) and (iv) in
an amount of 1×10^{-6} to 1 mol per mole of silver halide.
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13. A photothermographic material according to Claim 1,
30 which comprises the compounds of (i), (ii), (iii) and (iv) in
an amount of 1×10^{-5} to 5×10^{-1} mol per mole of silver halide

14. A photothermographic material according to Claim 1,
which comprises the compounds of (i), (ii), (iii) and (iv) in
35 an amount of 2×10^{-5} to 2×10^{-1} mol per mole of silver halide.